Andrey N Vasil'ev

List of Publications by Year
in descending order

138 papers	3,212 citations	186265 28 h-index	182427 51 g-index
140 all docs	140 docs citations	140 times ranked	4899 citing authors

#	Article	IF	Citations
1	Needs, Trends, and Advances in Inorganic Scintillators. IEEE Transactions on Nuclear Science, 2018, 65, 1977-1997.	2.0	305
2	Recombination of Correlated Electronâ€“Hole Pairs With Account of Hot Capture With Emission of Optical Phonons. IEEE Transactions on Nuclear Science, 2012, 59, 2057-2064.	2.0	168
3	Multiscale Approach to Estimation of Scintillation Characteristics. IEEE Transactions on Nuclear Science, 2014, 61, 235-245.	2.0	152
4	Critical behavior of La0.825Sr0.175MnO2.912 anion-deficient manganite in the magnetic phase transition region. JETP Letters, 2007, 85, 507-512.	1.4	119
5	An analytical model of nonproportional scintillator light yield in terms of recombination rates. Journal of Applied Physics, 2009, 105, .	2.5	104
6	Luminescence properties and scintillation mechanisms of cerium- and praseodymium-doped lutetium orthoaluminate. Journal of Physics Condensed Matter, 1997, 9, 5229-5243.	1.8	90
7	Can Transient Phenomena Help Improving Time Resolution in Scintillators?. IEEE Transactions on Nuclear Science, 2014, 61, 229-234.	2.0	87
8	Scintillation Efficiency Improvement by Mixed Crystal Use. IEEE Transactions on Nuclear Science, 2014, 61, 262-270.	2.0	83
9	The Origins of Scintillator Non-Proportionality. IEEE Transactions on Nuclear Science, 2012, 59, 2038-2044.	2.0	81
10	Modelling energy deposition in nanoscintillators to predict the efficiency of the X-ray-induced photodynamic effect. Nanoscale, 2015, 7, 5744-5751.	5.6	72
11	From Luminescence Non-Linearity to Scintillation Non-Proportionality. IEEE Transactions on Nuclear Science, 2008, 55, 1054-1061.	2.0	69
12	Extensive studies on CeF3 crystals, a good candidate for electromagnetic calorimetry at future accelerators. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 1996, 383, 367-390.	1.6	66
13	Time-resolved luminescence of CeF3 crystals excited by X-ray synchrotron radiation. Chemical Physics Letters, 1993, 206, 470-474.	2.6	54
14	On the use of CdSe scintillating nanoplatelets as time taggers for high-energy gamma detection. Npj 2D Materials and Applications, 2019, 3, .	7.9	53
15	Exciton-exciton interactions in<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:msub><mml:mrow><mml:mtext>CdWO</mml:mtext></mml:mrow><mml:mn>4</mml:mn></m by intense femtosecond vacuum ultraviolet pulses. Physical Review B, 2009, 79, .	3.4	52
16	New features of hot intraband luminescence for fast timing. Journal of Luminescence, 2016, 176, 309-317.	3.1	51
17	Fast luminescence of undoped PbWO4 crystal. Chemical Physics Letters, 1995, 243, 552-558.	2.6	50
18	Luminescence investigation of zinc molybdate single crystals. Physica Status Solidi (A) Applications and Materials Science, 2009, 206, 1579-1583.	1.8	49

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19	Electronic structure and luminescence mechanisms in ZnMoO₄crystals. Journal of Physics Condensed Matter, 2011, 23, 365501.	1.8	45
20	Effect of quenching processes on the decay of fast luminescence from barium fluoride excited by VUV synchrotron radiation. Physical Review B, 1995, 52, 3117-3121.	3.2	44
21	Experimental study of the excitation threshold of fast intrinsic luminescence of CsI. Physical Review B, 1994, 49, 13197-13200.	3.2	43
22	The role of different linear and non-linear channels of relaxation in scintillator non-proportionality. Journal of Luminescence, 2009, 129, 1790-1793.	3.1	41
23	Luminescence quenching as a probe for the local density of electronic excitations in insulators. Journal of Electron Spectroscopy and Related Phenomena, 1996, 79, 147-150.	1.7	38
24	Improvement of the Time Resolution of Radiation Detectors Based on Gd₃Al₂Ga₃O₁₂ Scintillators With SiPM Readout. IEEE Transactions on Nuclear Science, 2019, 66, 1879-1888.	2.0	37
25	Progress in Studying Scintillator Proportionality: Phenomenological Model. IEEE Transactions on Nuclear Science, 2009, 56, 2313-2320.	2.0	34
26	Kinetic Model of Energy Relaxation in CsI:A (A = Tl and In) Scintillators. Journal of Physical Chemistry C, 2015, 119, 20578-20590.	3.1	33
27	Relaxation of electronic excitations in CaF2 nanoparticles. Journal of Applied Physics, 2012, 112, .	2.5	30
28	Estimation of the Electron Thermalization Length in Ionic Materials. Journal of Physical Chemistry Letters, 2013, 4, 3534-3538.	4.6	30
29	The CMS barrel calorimeter response to particle beams fromÂ2ÂtoÂ350 GeV/c. European Physical Journal C, 2009, 60, 359-373.	3.9	29
30	Electronic excitations in crystals with complex oxyanions. Physica Scripta, 1990, 41, 530-536.	2.5	28
31	Energy transfer in solid solutions ZnxMg1â^’xWO4. Optical Materials, 2014, 36, 1660-1664.	3.6	28
32	The luminescence of BaF2 nanoparticles upon high-energy excitation. Journal of Applied Physics, 2014, 116, .	2.5	27
33	Polarization approximation for electron cascade in insulators after high-energy excitation. Nuclear Instruments & Methods in Physics Research B, 1996, 107, 165-171.	1.4	26
34	Timeâ€resolved XEOL spectroscopy of new scintillators based on CsI. Review of Scientific Instruments, 1992, 63, 806-809.	1.3	25
35	Influence of stoichiometry on the optical properties of lead tungstate crystals. Chemical Physics Letters, 1997, 277, 65-70.	2.6	25
36	Temperature dependence of the charge transfer and fâ€“f luminescence of Yb3+ in garnets and YAP. Journal of Physics Condensed Matter, 2005, 17, 5587-5594.	1.8	25

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37	Excitonâ€"Exciton Interaction in CdWO$_{4}$ Under Resonant Excitation by Intense Femtosecond Laser Pulses. IEEE Transactions on Nuclear Science, 2010, 57, 1182-1186.	2.0	25
38	Physics of Fast Processes in Scintillators. Particle Acceleration and Detection, 2020, , .	0.5	25
39	The features of energy transfer to the emission centers in ZnWO4 and ZnWO4:Mo. Journal of Luminescence, 2013, 144, 105-111.	3.1	24
40	Heating of conduction band electrons by intense femtosecond laser pulses. Europhysics Letters, 2004, 67, 301-306.	2.0	23
41	Optical Functions and Luminescence Quantum Yield of Lead Tungstate. Physica Status Solidi A, 1998, 170, 167-173.	1.7	22
42	Impact production of secondary electronic excitations in insulators: Multiple-parabolic-branch band model. Physical Review B, 1999, 60, 5340-5347.	3.2	22
43	Self-trapped exciton and core-valence luminescence in BaF2 nanoparticles. Journal of Applied Physics, 2013, 114, .	2.5	21
44	Influence of matrix composition and its fluctuations on excitation relaxation and emission spectrum of Ce ions in (Gd Y1-)3Al2Ga3O12:Ce scintillators. Journal of Luminescence, 2022, 242, 118590.	3.1	21
45	X-ray excitation of luminescence of scintillator materials in the 7â€"22 keV region. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 1995, 361, 384-387.	1.6	20
46	Appearance of new lines and change in line shape in the IR spectrum of a NaV2O5 single crystal at a spin-Peierls transition. JETP Letters, 1997, 65, 743-748.	1.4	20
47	Theoretical analysis of non-radiative multiphonon recombination activity of intrinsic defects in CdTe. Journal of Applied Physics, 2016, 119, .	2.5	20
48	High-energy excitation of luminescence of crystals with oxyanions. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 1989, 282, 599-606.	1.6	19
49	Fast U.V. scintillations in CsI-type crystals. Nuclear Tracks and Radiation Measurements (1993), 1993, 21, 11-13.	0.1	19
50	Crossluminescence in ionic crystals. Journal of Electron Spectroscopy and Related Phenomena, 1996, 79, 111-116.	1.7	19
51	Electron heating in the conduction band of insulators irradiated by ultrashort laser pulses. Physical Review B, 2006, 74, .	3.2	19
52	Improvement of the timing properties of Ce-doped oxyorthosilicate LYSO scintillating crystals. Journal of Physics and Chemistry of Solids, 2020, 139, 109356.	4.0	19
53	Influence of Disorder in Scintillating Solid Solutions on Thermalization and Recombination of Electronic Excitations. Physica Status Solidi (B): Basic Research, 2020, 257, 1900535.	1.5	17
54	Model of Y2O3â€"Yb charge-transfer luminescence based on ab initio cluster calculations. Journal of Luminescence, 2008, 128, 1748-1752.	3.1	16

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55	Theoretical investigations on the high light yield of the LuI3:Ce scintillator. Journal of Luminescence, 2009, 129, 1555-1559.	3.1	16
56	Urbach effects in the kinetics of core holes for excitation of cross-luminescence. Journal of Luminescence, 1992, 51, 275-282.	3.1	15
57	LSO-Ce fluorescence spectra and kinetics for UV, VUV and X-ray excitation. Radiation Effects and Defects in Solids, 1995, 135, 391-396.	1.2	15
58	Luminescence properties of the RbCaF3 crystal at X-ray excitation. Chemical Physics Letters, 1997, 278, 369-372.	2.6	15
59	Observation of high energy photoelectrons from solids at moderate laser intensity. Applied Physics B: Lasers and Optics, 2004, 78, 989-994.	2.2	15
60	VUV excitation of intrinsic luminescence of ionic crystals with complicated band structure. Simulation. Journal of Luminescence, 1997, 72-74, 96-97.	3.1	13
61	Simulation of energy conversion and transfer in CeF3 after VUV photon absorption. Journal of Alloys and Compounds, 1998, 275-277, 488-492.	5.5	13
62	Study of optical and luminescent properties of some inorganic scintillators in the fundamental absorption region. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2002, 486, 367-373.	1.6	13
63	Self-quenching effects of excitons in CaWO4 under high density XUV free electron laser excitation. Physics of the Solid State, 2008, 50, 1789-1794.	0.6	13
64	Modeling of X-ray excited luminescence intensity dependence on the nanoparticle size. Radiation Measurements, 2016, 90, 174-177.	1.4	13
65	Luminescence properties of solid solutions LuxY1-xPO4:Eu3+. Optical Materials, 2018, 75, 607-611.	3.6	13
66	Scintillator energy resolution and a way to improve it by kinetic waveform analysis. Radiation Measurements, 2019, 122, 108-114.	1.4	13
67	Towards effective indirect radioisotope energy converters with bright and radiation hard scintillators of (Gd,Y)3Al2Ga3O12 family. Nuclear Engineering and Technology, 2022, 54, 2579-2585.	2.3	13
68	Excitation density effects in luminescence properties of CaMoO4 and ZnMoO4. Optical Materials, 2019, 90, 7-13.	3.6	12
69	Electron heating through a set of random levels in the conduction band of insulators induced by femtosecond laser pulses. Applied Physics A: Materials Science and Processing, 2010, 98, 679-689.	2.3	11
70	Band tail absorption saturation in CdWO4with 100 fs laser pulses. Journal of Physics Condensed Matter, 2013, 25, 245901.	1.8	11
71	Picosecond transient absorption rise time for ultrafast tagging of the interaction of ionizing radiation with scintillating crystals in high energy physics experiments. Journal of Instrumentation, 2014, 9, P07017-P07017.	1.2	11
72	Composition effect in luminescence properties of Y(NbxTa1-x)O4 mixed crystals. Optical Materials, 2018, 80, 247-252.	3.6	11

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73	Perspectives for CdSe/CdS spherical quantum wells as rapid-response nano-scintillators. Nanoscale, 2021, 13, 19578-19586.	5.6	11
74	Station for VUV-spectroscopy at beam line M of the storage ring Siberia-I. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 1987, 261, 85-87.	1.6	10
75	Energy transfer in inorganic scintillators. Radiation Effects and Defects in Solids, 1999, 150, 1-10.	1.2	10
76	Excitonic and activator recombination channels in binary halide scintillation crystals. Physica Status Solidi (B): Basic Research, 2014, 251, 942-949.	1.5	10
77	Fluctuations of ionizing particle track structure and energy resolution of scintillators. Functional Materials, 2017, 24, 621-627.	0.1	10
78	Design rules for time of flight Positron Emission Tomography (ToF-PET) heterostructure radiation detectors. Heliyon, 2022, 8, e09754.	3.2	10
79	Quenching of excitonic luminescence of alkaline earth fluorides excited by VUV harmonics of femtosecond laser. Journal of Luminescence, 2009, 129, 1813-1816.	3.1	9
80	Potentiality of Ceramic Scintillators: General Considerations and YAG-Yb Optical Ceramics Performance. IEEE Transactions on Nuclear Science, 2010, 57, 1211-1217.	2.0	9
81	Numerical simulation of energy relaxation processes in a ZnMoO4 single crystal. Optics and Spectroscopy (English Translation of Optika I Spektroskopiya), 2012, 112, 72-78.	0.6	9
82	Intrinsic luminescence of SrF2 nanoparticles. Journal of Luminescence, 2017, 190, 10-15.	3.1	9
83	Microtheory of Scintillation in Crystalline Materials. Springer Proceedings in Physics, 2017, , 3-34.	0.2	9
84	Theory of X-ray photoacoustic spectroscopy. Applied Physics A: Materials Science and Processing, 1995, 60, 333-341.	2.3	8
85	Cerium-doped fluorescent and scintillating ionic crystals. Radiation Effects and Defects in Solids, 2001, 154, 277-286.	1.2	8
86	Optical and luminescence properties of complex lead oxides. IEEE Transactions on Nuclear Science, 2001, 48, 2324-2329.	2.0	8
87	Trapping and self-trapping in ytterbium-doped oxides with charge transfer luminescence. Journal of Luminescence, 2009, 129, 1509-1513.	3.1	8
88	Cation influence on exciton localization in homologue scheelites. Journal of Physics Condensed Matter, 2015, 27, 385501.	1.8	8
89	New detecting techniques for a future calorimetry. Journal of Physics: Conference Series, 2015, 587, 012056.	0.4	8
90	Monte-Carlo simulation of the creation of excited regions in insulators by a photon. Radiation Effects and Defects in Solids, 1995, 135, 315-319.	1.2	7

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91	Photoemission, photodesorption and luminescence studies of CsI in the 20â€“140 eV region. Journal of Electron Spectroscopy and Related Phenomena, 1996, 80, 109-112.	1.7	7
92	Energy Resolution of Scintillators in Connection With Track Structure. IEEE Transactions on Nuclear Science, 2020, 67, 880-887.	2.0	7
93	Optical properties and luminescence centres of lead tungstate, sulphate and carbonate. Radiation Effects and Defects in Solids, 2001, 154, 307-311.	1.2	6
94	Time-Resolved VUV Excited Luminescence of $hbox {Y}_{2}hbox {O}_{3}hbox {--} hbox {Yb}$ Nanoparticles. IEEE Transactions on Nuclear Science, 2010, 57, 1355-1360.	2.0	6
95	Emission spectrum of intraband luminescence for single parabolic band under excitation of wide-band-gap insulators by ionizing radiation and particles. Physics of Wave Phenomena, 2015, 23, 186-191.	1.1	6
96	Time-resolved luminescence Z-scan of CsI using power femtosecond laser pulses. Radiation Measurements, 2019, 124, 1-8.	1.4	6
97	Scintillation, phonon and defect channel balance; the sources for fundamental yield increase. Functional Materials, 2016, 23, 183-190.	0.1	6
98	Enhancing and Quenching of Intrinsic Luminescence and Characteristic Features of Calcium Tungstate Phosphorescence in the Presence of Lanthanides. Physica Status Solidi A, 1983, 77, 375-380.	1.7	5
99	Monte-Carlo Study of Energy Losses in Hot Stage of Electronic Excitation Relaxation in Scintillators. Materials Research Society Symposia Proceedings, 1994, 348, 387.	0.1	5
100	Time resolved luminescence spectroscopy of wide bandgap insulators. Journal of Electron Spectroscopy and Related Phenomena, 1996, 79, 99-102.	1.7	5
101	Ferromagnetic shape memory alloys Ni _{2 ± x ± y} Mn _{1 ± x} Ga _{1 ± y}. International Journal of Applied Electromagnetics and Mechanics, 2004, 20, 37-56.	0.6	5
102	Interaction d'impulsions VUV intenses avec les solides luminescents. European Physical Journal Special Topics, 2006, 138, 155-161.	0.2	5
103	Quenching of exciton luminescence in SrF2 nanoparticles within a diffusion model. Journal of Applied Physics, 2018, 123, .	2.5	5
104	Carrier Trap Parameters in NaI with Tl, In, and Eu Dopants. Journal of Physical Chemistry C, 2019, 123, 13519-13530.	3.1	5
105	Diffusion of 5p-holes in BaF2 nanoparticles. Optical Materials, 2019, 91, 115-119.	3.6	5
106	Electronic and Optical Properties of Scintillators Based on Mixed Ionic Crystals. Springer Proceedings in Physics, 2017, , 63-82.	0.2	5
107	Behaviour of scintillators under XUV free electron laser radiation. Journal of Luminescence, 2008, 128, 732-734.	3.1	4
108	Calorimetric and spectroscopic study of quasi-one-dimensional Haldane magnets (Y1 âˆ' x Nd x)2BaNiO5 (x = 1, 0.75, 0.50, 0.25). Journal of Experimental and Theoretical Physics, 2010, 111, 204-208.	0.9	4

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109	Usage of polarization approximation for the estimation of scintillator intrinsic energy resolution. Radiation Measurements, 2010, 45, 258-261.	1.4	4
110	Effect of the activator impurity on the scintillation yield in alkali-halide crystals. Physica Status Solidi (B): Basic Research, 2015, 252, 380-385.	1.5	4
111	Optical and luminescent VUV spectroscopy using synchrotron radiation. Crystallography Reports, 2016, 61, 886-896.	0.6	4
112	PhotoÃ©mission de CsI induite par une impulsion laser intense femtoseconde. European Physical Journal Special Topics, 2003, 108, 113-117.	0.2	4
113	Utilisation des matÃ©riaux luminescents pour la mÃ©trologie des faisceaux intenses UVX d'impulsions ultracourtes. European Physical Journal Special Topics, 2006, 138, 251-257.	0.2	4
114	Anomalous magnetism and 209Bi nuclear spin relaxation in Bi4Ge3O12 crystals. Hyperfine Interactions, 2010, 197, 65-70.	0.5	3
115	Thermal and magnetic properties of La1 âˆ' x Pb x MnO3. Bulletin of the Russian Academy of Sciences: Physics, 2011, 75, 190-192.	0.6	3
116	Shallow Traps in Scintillation Materials. Particle Acceleration and Detection, 2020, , 113-130.	0.5	3
117	Vibrational Relaxation in a Localized Excited Electronic State by the GME Method. Physica Status Solidi (B): Basic Research, 1984, 125, 477-482.	1.5	2
118	The Role of Core Levels in Scintillation Processes. Materials Research Society Symposia Proceedings, 1994, 348, 241.	0.1	2
119	The role of cation vacancies in excitation mechanism of re-ions in alkaline-earth sulphides. Radiation Effects and Defects in Solids, 1995, 135, 383-389.	1.2	2
120	Decay of core holes in cesium chloride studied by the luminescence spectroscopy. Journal of Luminescence, 1997, 72-74, 930-932.	3.1	2
121	Density of the generalized oscillator strength of atomic hydrogen: A semiclassical approach. Physical Review A, 1998, 58, 3683-3687.	2.5	2
122	Defect creation at the core edges of cesium and potassium bromides. Radiation Effects and Defects in Solids, 2001, 155, 153-157.	1.2	2
123	History of NMR Gyroscope Development in Russia in 1960â€"2000s. Gyroscopy and Navigation, 2018, 9, 147-161.	1.3	2
124	Transient optical absorption as a powerful tool for engineering of lead tungstate scintillators towards faster response. Journal of Materials Chemistry C, 2022, 10, 9521-9529.	5.5	2
125	Influence of random electric fields on luminescence yield and kinetics of insulators. Radiation Effects and Defects in Solids, 2002, 157, 665-669.	1.2	1
126	Luminescence excitation and its relation to the structures of natural crystalline diamond and diamond-like films. Journal of Surface Investigation, 2007, 1, 651-655.	0.5	1

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127	Modeling of the luminescence-decay kinetics of self-trapped excitons at a high excitation density under conditions of absorption saturation. Bulletin of the Lebedev Physics Institute, 2012, 39, 155-161.	0.6	1
128	Electromagnetic generation of ultrasound in metals at low temperatures. Pramana - Journal of Physics, 1987, 28, 483-488.	1.8	0
129	Magnetostriction of the spin-Peierls compound CuGeO3. JETP Letters, 1996, 64, 166-170.	1.4	0
130	Photoinduced paramagnetism of group III impurities in A[sub IV]B[sub VI] narrow-gap semiconductors. AIP Conference Proceedings, 2001, , .	0.4	0
131	POLARIZATION PROPERTIES OF SYNCHROTRON RADIATION IN THE STUDY OF ANISOTROPIC INSULATING CRYSTALS. Surface Review and Letters, 2002, 09, 469-472.	1.1	0
132	Efficient Channels of Energy Transfer in High Light Yield LuI3:Ce Scintillator. Materials Research Society Symposia Proceedings, 2008, 1111, 1.	0.1	0
133	Application of the model of a set of harmonic oscillators in intense femtosecond laser pulsed field for the estimation of the limits of electron heating in insulators. Moscow University Physics Bulletin (English Translation of Vestnik Moskovskogo Universiteta, Fizika), 2009, 64, 465-469.	0.4	0
134	History of NMR Gyroscope Development in Russia in 1960-2000s. Giroskopiya I Navigatsiya, 2018, 26, 3-27.	0.2	0
135	Free Carrier Dynamics in Scintillation Materials. Particle Acceleration and Detection, 2020, , 131-191.	0.5	0
136	Transient Phenomena in Scintillators. Particle Acceleration and Detection, 2020, , 193-210.	0.5	0
137	Wide-Band-Gap Semiconductor Scintillators. Particle Acceleration and Detection, 2020, , 211-226.	0.5	0
138	Release of Ionizing Radiation Energy in Inorganic Scintillator. Particle Acceleration and Detection, 2020, , 1-21.	0.5	0